When Care is Critical

CRITICAL CARE MEDICINE ENCOMPASSES a wide variety of clinical diseases that overlap with many other veterinary specialties. Due to this overlap it is sometimes difficult for the public, or even other veterinarians, to understand the role of a criticalist. It is sometimes easier to start by understanding what a criticalist is not in order to grasp what they are. The most common misunderstanding is that critical care and emergency medicine are the same. Although the specialty covers both areas, they are very different.

Emergency medicine is meant to receive incoming patients that are not scheduled, some of these will be true emergencies, and others will be due to owner convenience or perceived emergency. The main goal is to recognize the severity of illness, triage the patient and generate a starting plan focused on the most life-threatening problem.

A critical care service is meant to continue the daily care and diagnostic workup of the very sick patient that comes in through the emergency service or even from other services. Depending on the hospital and the level of illness, a patient may be transferred to a critical care service shortly after admission or even the next morning. The main goal of critical care is to monitor, anticipate and preempt patient needs. The focus is on the whole animal and to maintain as well as protect all body systems. Often, expertise from other services is sought for these patients, but the criticalist amalgamates the overall care so that nothing is missed.

So what constitutes the very sick? This is a bit subjective, and sometimes this is more obvious than others; however, there are some rules to go by. Classically, patients requiring mechanical ventilation and post cardiac arrest are placed in the critical care service as well as patients with sepsis or shock of any etiology. Patients that are recovering from major abdominal or thoracic surgery also benefit from critical care, especially when the surgeon is in surgery and cannot check on them frequently enough. A critical care team, rather than an internist trying to see a full day of appointments, may better serve acute presentations of many medical illnesses such as diabetic ketoacidosis, pneumonia and IMHA. This is not to say that the ICU does not get busy, but the criticalist has more flexibility in availability for patients than other services with appointments booked. Trauma and intoxications are other large areas under the umbrella of critical care. A trauma patient may require surgical repair of a fracture; however, this is usually best delayed until the patient is stable or proves he is not going to destabilize.

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We thank our colleague from BluePearl in New York Christine Iacovetta, BVetMed, DACVECC, for allowing us to use this article for Companion.

MEDICAL DIRECTOR’S COLUMN

WE ARE EXCITED that warm weather has finally arrived in Chicagoland and hope it decides to unpack and stay awhile. Our hospitals have some new additions since the spring issue of our Companion newsletter was sent, and I’m excited to share these updates with you.

In Skokie, we’re thrilled that Susan Yohn, DVM, MS, DABVP-Canine/Feline, DACVIM, has joined the BluePearl team and will continue practicing at our Skokie hospital. Dr. Yohn sees patients on Mondays, Tuesdays and Thursdays. If you have a case that you would like to transfer to or consult with Dr. Yohn on, please contact her at 847.675.5430. Also in Skokie, Susan Rosecrans joined our team as practice manager. She comes to us with many years of experience in human healthcare management.

In Elk Grove Village, our oncologist, Pedro Boria, DVM, MS, DACVIM-Oncology, is now seeing patients Tuesday through Friday. He will continue to see oncology and I-131 patients at our Northfield hospital on Mondays.

We are also expecting a new criticalist to join us in Northfield in September.

While our hospitals continue to evolve to suit the needs of our primary care community, we continue to adhere to our five-point commitment to you:

• We are committed to remarkable patient care and client service.
• We operate strictly by referral.
• We will call and send you a written report for every referral.
• We do NOT practice routine, general or prophylactic care.
• We are happy to consult on cases with you whenever you call.

Please reach out with any questions or concerns and let us know how you think we’re doing. We look forward to continuing to work together.

Jen Welser, DVM, DACVVO
Chief Medical Officer
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Through her teenage experience as a kennel assistant, Dr. Yohn was able to see what joy and satisfaction a career in veterinary medicine could bring. After earning a BS in zoology and DVM from Iowa State University, she completed a two-year internal medicine residency program at Purdue. She received her MS in Mammalian Physiology from Rutgers. Dr. Yohn loves the challenge of solving the diagnostic mysteries that enable her to help patients recover. She is skilled in all aspects of internal medicine including gastrointestinal, liver, renal, respiratory, cardiac, hematologic and oncologic cases.

Like most of us, away from work, Dr. Yohn spends time with her extended family, which in her case includes her “naughty little white dog,” Scruffy, and her cat, Munchkin. She’s also a fan of mystery novels and sci-fi movies.

What’s on the horizon in internal medicine that most intrigues you?
I am excited about the options that are becoming available to pet owners. With new diagnostic technology, such as PCR assays and advanced imaging modalities, we are able to obtain more specific diagnoses for many of our patients, which allows us to be more accurate in prognosis and therapy decisions.

Was there a college professor who changed your life?
A small animal internal medicine clinician in my senior year of veterinary college showed me how to be a good diagnostician and clinician, and how to maintain my compassion and common sense when managing patients and clients. This veterinarian showed me how to “do it right” at the beginning of my career.

What is the last performance you saw?
I just saw a high school production of the musical Tarzan... yes there is a musical version of Tarzan! It was brilliantly done and showcased the incredible talent and dedication of the young people involved. I walked away with hope and respect for the generation behind most of us.
VACCINES OR TITERS?

Susan Yohn, DVM, MS, DABVP Canine/Feline, DACVIM

It is important to remember that other factors may affect titer interpretation and risk for the pet. The immune system is complex. Antibodies target the foreign invaders for destruction, but other immune system cells actually destroy the invader. An insufficiency in the cell-mediated immune system (immunosuppression) may leave a pet at risk for disease even if protective titers are present. Even if a titer is considered low, exposure to the same antigen may result in a rapid immune response with new antibodies produced within hours to days. These animals may be susceptible to infection but may be fully protected due to immune-cell memory and cell-mediated immunity. By law, rabies vaccine titers cannot be used in place of re-vaccination. When a rabies vaccination is not current, a pet that bites someone must be considered unvaccinated and quarantined.

Antibody titers to vaccines other than the core viruses have limited or no value as “protective titers.” Antibodies may persist for a short time, and there is no correlation between serum antibody testing and protection. This includes antibody testing for leptospirosis, feline herpesvirus, feline calici virus, Lyme disease, and Bordetella. With other diseases, feline immunodeficiency virus for example, titer levels equate only to exposure to the pathogen or active infection.

How reliable are these vaccine titers?

Vaccine titers have been the cornerstone of the change in our knowledge about vaccine protection. They measure the presence of serum antibody able to neutralize the virus and prevent infection. IgG is the antibody class measured by vaccine titer assays. Studies have shown that for specific viral diseases in dogs (parvovirus, distemper, adenovirus) and cats (panleukopenia virus) protection after initial appropriate vaccination can last for 4 to 10 years based on serologic titer results and challenge studies.

The “gold standard” assays for these virus titers are the viral neutralizing titer (VNT) and hemagglutination inhibition (HI). Most state diagnostic labs utilize the gold standard methodologies. Most, if not all, commercial veterinary laboratories have qualified and standardized alternative methodologies including enzyme immunoassays (ELISA) and immunofluorescence assays (IFA) to provide similar titer information compared to the gold standard VNT and HI assays. Due to variations in lab assay methodologies, different reference ranges, and potential change in titers from the pet over time, titers should not be compared between different laboratories.

In-clinic titer test kits for canine distemper, parvovirus, and adenovirus and feline panleukopenia virus are now available. TiterCHEK® (Zoetis) and VaccCheck® are the names of two commercially available in-clinic titer kits. Both test kit systems have been validated independently and correlated with the gold standard titer assay.

Rabies virus titers can also be assayed by the fluorescent antibody virus neutralizing titer, but the assay is available only through a limited number of certified laboratories.

How are these titers interpreted?

Depending on the individual lab and test methodology used, vaccine titer results may be reported as “protective” or “positive” (high antibody titer), “not protective” or “negative” (low antibody titer), or “borderline.” Some assays will provide an actual titer level from the laboratory to use in interpretation. The in-clinic titer test kits provide either a protected or not-protected result (TiterCHEK®) or a semi-quantitative score for serum antibodies (VacciCheck®). Protective, positive or high titers indicate that there is a high antibody titer to that virus either from vaccination or previous natural exposure or disease. For pets with a not protective, negative or low titer, lack of virus protection is of concern and booster vaccinations are recommended.

VACCINE PRODUCTS HAVE BEEN used in companion animal medicine for more than 40 years. They could arguably be considered one of the most important scientific advancements that have helped us improve quality and longevity of the life of our cat and dog patients. In the last decade, a significant change in our thinking about vaccination protocols has been seen due to several different factors. Our understanding of the science of vaccination-induced immunity has evolved suggesting more prolonged infectious disease protection with specific core vaccines (canine distemper, parvovirus, adenovirus, feline panleukopenia virus). Major veterinary associations (AAHA and AVMA) with the support of vaccine manufacturers now recommend reassessment of annual vaccination protocols, especially for the core vaccines. Vaccination every three years has become accepted practice by many veterinary practices. Vaccine manufacturers have introduced new products with more extended duration of immunity and fewer antigenic components.

Our society has become more concerned about possible vaccine reactions in children, and this has also created concern over side effects in pets. Side effects are fortunately infrequent in dogs and cats, but there has been association between vaccination and the development of vaccine sarcomas in cats and immun-mediated disease in dogs. With the concern from pet owners about “over vaccination” and the possibility of serious vaccine side effects, clients may now be requesting vaccine titers instead of vaccines.

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The BEST CORRELATION BETWEEN ANTIBODY AND PROTECTIVE IMMUNITY ARE FOR THE VIRUSES PREVIOUSLY DISCUSSED (CANINE PARVOVIRUS, DISTEMPER, ADENOVIRUS, FELINE PANLEUKOPENIA, RABBIES).
CONTINUING EDUCATION

CONTACT OUR VETERINARY RELATIONS COORDINATOR Kelly Gardella at 224.216.5762 for information about CE programs presented by BluePearl team members. Our doctors and technicians would be delighted to see you at one of the CE programs offered throughout the year at our hospitals. We also would welcome the opportunity to work with you on a CE that’s more individualized for your team’s needs. Our CE Delivered to Your Door brings a CE topic of your choosing to your hospital team at a time and date convenient to your staff.

There is no charge for BluePearl CE, either at our hospital or yours. We are delighted to be your partner in enhancing the level of care we can provide by making training accessible and practical. CE Delivered to Your Door takes time to coordinate and schedule, so give Kelly a call with your needs and reserve a date soon!

For the most current information about BluePearl CE, please click the For Veterinarians tab on our homepage: bluepearlvet.com/Illinois.

SAVE THE DATE
Cabin Fever, our day-long CE event, will be held on Sunday, Jan. 31, 2016, at the Rolling Meadows Club in Rolling Meadows. Expect BIG changes from last year’s event, fantastic CE topics and fun surprises!

Kelly Gardella
Veterinary Relations Coordinator